

## Remarks

### A. Overview

Examiner Luu is thanked for the courtesies extended to Ryan Barker during the telephone interview on August 4, 2003. As stated in the Interview Summary enclosed in the mailing of this Office Action, the substance of the interview was that the response submitted by Applicant on July 15, 2003 was under consideration and that an official action would be forthcoming. Applicant submits that this Office Action is the official action referred to in the Interview Summary.

Examiner Luu is further thanked for the courtesies extended to the undersigned during the telephone interview on November 4, 2003. The amendments and remarks submitted herein reflect and expand on the discussions that took place during the interview.

The present application includes claims 1 and 3-39. With this Amendment, Applicant has rewritten claims 17 and 19 in independent form. Further, Applicant has added claims 40-78. As such, claims 1 and 3-78 are currently pending in this application.

### B. Allowable Subject Matter

Applicant acknowledges with appreciation the Examiner's indication that claims 17-19 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With this Amendment, Applicant has rewritten claims 17 and 19 in independent form. The presentation of claims 17 and 19 in independent form is merely a cosmetic change to respective original claims 17 and 19 and does not narrow the original scope of claims 17 and 19, respectively. Claim 18 still depends from claim 17 along with newly added claims 40-47. Newly added claims 48-55 depend from claim 19. Accordingly, Applicant submits that claims 17-19 and 40-55 are in condition for allowance.

### C. Claim Rejections

Claims 1, 3, 7, 8, 11, 12, and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,014,784 to Taylor et al. (hereinafter the "Taylor Patent") in view of U.S. Patent No. 4,538,311 to Hall et al. (hereinafter the "Hall Patent"). The rejected claims include independent claim 1 from which the remainder of the rejected claims depend.

The Taylor Patent relates to a Portable System for Generating Variable Pressure Point Body Support. Referring to Fig. 1, a cushion 1 is shown. The cushion 1 is shown cut away to show two arrays of inflatable air bladders 10, cloth covers 17 for each individual bladder 10, two air manifolds 13, 14, one connected to each array of bladders 10, a rigid support member base 15 on which the arrays of bladders are placed, a control/activation module 20, and a remote switch and alarm panel 5 which is connected to module 20.

The Hall Patent teaches a Self-Sealing Puncturable Article. Figs. 3 and 4 show a two-component polyurethane sealing material for use in the manufacturing of waterbeds. Polyurethane is sprayed or brushed on to the internal surface of a top sheet of the envelope. Then a barrier layer 40 is placed on the layer of sealing material after it has at least partially cured. Then bottom and top sheets are secured together in the conventional fashion such as heat welding to form the mattress.

Applicant submits that the Examiner has improperly rejected independent claim 1 under 35 U.S.C. § 103(a) using the combination of the Taylor Patent and the Hall Patent. The combination of the Taylor Patent and the Hall Patent is improper because (1) the references lack any suggestion or motivation to modify the Taylor Patent to produce the invention recited in claim 1 including "self-sealing gas containers," and (2) the Taylor Patent specifically teaches away from the invention recited in claim 1.

For the U.S. Patent and Trademark Office to "establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings. Second, there must be a reasonable expectation of success. The prior art reference (or references when combined) must teach or suggest all the claim limitations." Manual of Patent Examining Procedure (M.P.E.P.) Section 2143.

Finally, "both the suggestion and the reasonable expectation of success must be founded in the prior art, and not in the applicant's disclosure." *In re Vaeck*, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). "[I]t is the prior art itself, and not the applicant's achievement, that must establish the obviousness of the combination." *In re Dance*, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); *In re Raynes*, 28 USPQ2d 1630, 1631 (Fed. Cir. 1993); *In re Oetiker*, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). "The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Moreover, the Patent and Trademark Office can satisfy its burden of establishing obviousness “only by showing some *objective* teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teachings of the references.” *In re Fine*, 1837 F.2d 1071, 1073, 5 USPQ2d 1596 (Fed. Cir. 1988) (emphasis added) (citations omitted). The Federal Circuit in *In re Fine* stated that a “bald assertion” that substituting an element in a prior art reference would have been within the ordinary skill in the art is insufficient to support a finding of obviousness. *Id.* at 1074.

The Federal Circuit has emphasized the requirement that the prior art must suggest the modifications necessary to achieve the claimed invention. The “mere possibility” that a prior art reference could be modified such that its use would lead to the particular result recited in a claim does not make that recited in the claim obvious “unless the prior art suggested the desirability of such a modification.” *In re Ochia*, 71 F.3d 1565, 1570, 37 USPQ2d 1127 (Fed. Cir. 1995). “Obviousness cannot be established by hindsight combination to produce the claimed invention.” *In re Dance*, 48 USPQ2d at 1637; *In re Gorman*, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

The Examiner bases the rejection of independent claim 1 on the Taylor Patent modified to include the sheeting of the Hall Patent to produce the invention recited in claim 1 including “self-sealing gas containers.” There is no teaching, suggestion or motivation in either the Taylor Patent or the Hall Patent to combine the Taylor Patent and the Hall Patent to produce the invention recited in claim 1. As stated above, the combination of the Taylor Patent and the Hall Patent is improper because the references lack any motivation or suggestion to modify the Taylor Patent to produce the invention recited in claim 1 directed to a mattress “including: a non-puncture resistant cover .. and a core ... including a plurality of self-sealing gas containers ....”

In rejecting claim 1, the Examiner stated in pertinent part,

“Taylor fails to disclose the gas container being self-sealing. ... Since the gas containers of Taylor are prone to leakage in the event of puncture, one be [sic: of] ordinary skill in the art, concerned with preventing leakage in the gas containers, would have been [sic: found it] obvious at the time the invention was made to use the sheeting of Hall et al. to form the gas containers so that the gas containers are capable of resealing in the event of a puncture.”

Applicant submits that the Taylor Patent and the Hall Patent lack any suggestion or motivation to so modify the Taylor Patent. Further, Applicant submits that the Examiner is

improperly using hindsight by using the Applicant's invention recited in claim 1 as a blueprint, instead of the teachings of the Taylor Patent and the Hall Patent. In reality, one of ordinary skill looking at the Taylor Patent, in its entirety, without a knowledge of Applicant's invention, would not be motivated to modify the Taylor Patent to include the sheeting of the Hall Patent.

The Taylor Patent does not contemplate a need for seal-sealing gas containers, but rather contemplates a support similar to the prior art shown in FIG. 1 of the present application wherein the inflatable layer 26 is protected from punctures by the foam layer 24. As stated in the present application,

Referring now to Figure 1, a conventional mattress structure 10 is shown situated on a conventional hospital bed 12. Mattress structure 10 generally includes an enclosure 14 having an upper, sleep surface 16, a lower surface 18, and defining an upper chamber 20 and a lower chamber 22.... In conventional mattress structure 10, upper chamber 20 contains a foam layer 24, and lower chamber 22 contains an inflatable layer 26.<sup>1</sup>

The fact that inflatable layer 26 is susceptible to leaks caused by needles is a main reason for the inclusion of foam layer 24.<sup>2</sup>

Referring to the Taylor Patent, the support includes arrays of inflatable air bladders 10 and a cushion top 18. The Taylor Patent is fairly silent on the makeup of cushion 1 because cushion 1 is not part of the invention.<sup>3</sup> However, one looking at the Taylor Patent, in its entirety, would conclude that the disclosed cushion top 18 of the Taylor Patent has a substantial thickness and would protect bladders 10 from punctures, similar to the prior art shown in FIG. 1 of the present application. Referring to the Background section, the Taylor Patent states,

“The need [for a means of relieving the discomfort of people who have to remain seated for long periods of time] has been addressed by a number of inventors and manufacturers who have produced cushions containing devices that vary the cushion support point.... Another example is U.S. Pat. No. 3,867,732 by Morrell [(the “Morrell Patent”)] which describes a cushion having a foam rubber body which supports a number of inflatable tubes in transverse side-by-side relation. The tubes are connected to an air supply that provides inflation air pressure, and is controlled by means to inflate and deflate alternate tubes so as to vary the points of support for a person using the

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<sup>1</sup> Specification, p. 3, lns. 6-13.

<sup>2</sup> “In health care settings, the use of sharp objects such as needles is common. As such, the mattress foam layer is desirable to protect the mattress air cushions from needle punctures and the consequent air loss of air cushions incorporated into the mattress.” Specification, p. 1, lns. 16-19.

<sup>3</sup> Taylor Patent, col. 3, lns. 2-5.

seat. In this invention, [the Morrell Patent,] the person sits directly on the tubes, with **the cushion being under the tubes.**"<sup>4</sup>

Referring to FIGS. 1 and 2 of the Morrell Patent, a foam rubber body 16 supports a plurality of laterally extending air tubes. One of ordinary skill reading the Taylor Patent, in light of the discussion of the prior art, would conclude that the Taylor Patent contemplates a system which applies variable pressure through a cushion top such as a foam rubber body. In other words, since the Taylor Patent describes the prior art as using a foam rubber cushion under the inflatable portion of the mattress, the skilled artisan would conclude that the cushion of the Taylor Patent, which is instead positioned above the inflatable portion of the mattress, is a similar foam rubber component.

The statements made by the Examiner in characterizing the Taylor Patent in this Office Action support this reading of the Taylor Patent. The Examiner stated,

"Taylor discloses a mattress comprising a ...cover.... The cover is a **cushioned top** (col. 3, lines 11-12). One of ordinary skill in the art concerned with **providing a cushioned or padded top** to the Mollura mattress, **would have looked to Taylor et al. for such a teaching.** Thus, it would have been obvious to one having ordinary skill in the art ... to modify Mollura by providing a non-puncture resistant cover as **to provide a cushioned top to the mattress.**"<sup>5</sup>

As such, based on the entirety of the Taylor Patent, one of ordinary skill would find no motivation to modify the disclosed structure of the Taylor Patent to include the sheeting of the Hall Patent since a protective, cushioned top cushion is disclosed in the Taylor Patent, thereby eliminating the need for self-sealing gas containers.

In addition to lacking a motivation to modify the disclosed structure of the Taylor Patent to produce the invention recited in claim 1, the Taylor Patent teaches away from a combination of the Taylor Patent and the sheeting of the Hall Patent for at least two reasons. First, the Taylor Patent criticizes the prior art for being complex and costly. As stated in the Background section of the Taylor Patent, "[t]he high cost of these specialized [prior art] devices is a particular deterrent for elderly persons who are by far the greatest number of wheelchair users."<sup>6</sup> The Taylor Patent describes the disclosed structure as being **"simply constructed using mostly non-specialized components and materials, and ...**

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<sup>4</sup> Taylor Patent, col. 1, lns. 19-36. (emphasis added)

<sup>5</sup> Office Action, numbered paragraph 4. (emphasis added)

<sup>6</sup> Taylor Patent, col. 1, lns. 46-48.

therefore relatively inexpensive.”<sup>7</sup> Minimizing cost is also explicitly stated as an object of the Taylor Patent.<sup>8</sup> As such, one of ordinary skill in the art reading the Taylor Patent would not be motivated to incorporate additional complexity, such as the sheeting of the Hall Patent, into the disclosed structure of the Taylor Patent because such sheeting is not “a non-specialized component or material.” Further, such incorporation of the sheeting of the Hall Patent would potentially increase the cost of the disclosed structure of the Taylor Patent. As stated above, the Taylor Patent specifically teaches away from such incorporation.

Second, the Taylor Patent already provides an alarm system to notify the user of leaks.<sup>9</sup> In summarizing the features of a wheelchair cushion incorporating the disclosed system, the Taylor Patent states, “the system includes audio and visual alarms located on a panel attached to a wheelchair arm, that will warn of failures such as Low battery voltage, a severe air-leak in the bladder system or errant cycle timing.”<sup>10</sup> Further, the alarm unit of the Taylor Patent incorporates many features into a single unit staying in line with the reduced cost objective of the Taylor Patent. As such, one looking to the Taylor Patent would be motivated to use an alarm system to notify of leaks, not to replace bladders 10 of the Taylor Patent with the sheeting of the Hall Patent.

In summary, there is no motivation present in the Taylor Patent itself to modify the Taylor Patent to include the sheeting of the Hall Patent. On the contrary, the Taylor Patent actually teaches away from such a combination. As such, the combination of the Taylor Patent and the Hall Patent is improper and the rejection of claim 1 should be withdrawn.

For at least these reasons, Applicant submits that independent claim 1 patentably defines over the Taylor Patent and the Hall Patent. Accordingly, Applicant submits that independent claim 1 is in condition for allowance. Such action is respectfully requested.

Claims 3, 7, 8, 11, 12, 14 depend from independent claim 1 and are allowable at least for the reasons stated above in connection with claim 1.

Claims 9, 10, 15, 16, 21-25, and 27 were rejected under 35 U.S.C. §103(a) as

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<sup>7</sup> Taylor Patent, col. 2, lns. 21-23. (emphasis added)

<sup>8</sup> The Taylor Patent discloses that “[y]et another object is to provide a relatively inexpensive system that will constantly change the pressure points under a person who has to sit in a wheelchair for long periods of time.” Taylor Patent, col. 2, lns. 30-33.

<sup>9</sup> The Taylor Patent discloses an “alarm panel 5 which is connected 22 to the control/activation module 20.” Taylor Patent, col. 3, lns. 19-20.

<sup>10</sup> Taylor Patent, col. 7, ln. 54 to col. 8, ln.3.

being unpatentable over the Taylor Patent in view the Hall Patent and in further view of U.S. Patent No. 5,421,044 to Steenson (hereinafter the "Steenson Patent"). The rejected claims include independent claims 15 and 27. Claims 9 and 10 depend from independent claim 1. Claims 16 and 21-25 are dependent from independent claim 15.

Claims 9 and 10 are allowable at least for the reasons stated above in connection with claim 1.

Claim 15 is directed to a "mattress for a bed having a frame for supporting the mattress and siderails, including: ... a core ... including a self-sealing lining...." In making this rejection, the Examiner is again attempting to modify the Taylor Patent to include the sheeting of the Hall Patent. As explained in detail above in relation to claim 1, there is no motivation to modify the Taylor Patent in such a manner. As such, there is no motivation for the combination of the Taylor Patent, the Hall Patent, and the Steenson Patent, and combination is improper for at least this reason.

For at least these reasons, Applicant submits that the invention recited in independent claim 15 is patentable over the combination of the Taylor Patent, the Hall Patent, and the Steensen Patent. Accordingly, Applicant submits that independent claim 15 is in condition for allowance. Such action is respectfully requested.

Claims 16 and 21-25 depend from independent claim 15 and are allowable at least for the reasons stated above in connection with claim 15.

Claim 27 is directed to a "mattress, including: means for defining a core including a plurality of sealed enclosures containing a gas... and means for automatically re-sealing a puncture in any of the plurality of enclosures...." In making this rejection, the Examiner is again attempting to modify the Taylor Patent to include the sheeting of the Hall Patent. As explained in detail above in relation to claim 1, there is no motivation to modify the Taylor Patent in such a manner. Thus, for at least the reasons stated above, Applicant submits that the invention recited in independent claim 27 is patentable over the Taylor Patent, the Hall Patent, and the Steensen Patent. Accordingly, Applicant submits that independent claim 27 is in condition for allowance. Such action is respectfully requested.

Claims 1, 3, 7-13, 15, 16, 20-23, and 25-27 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,679,264 to Mollura (hereinafter the "Mollura Patent") in view of the Taylor Patent and in further view of the Hall Patent. The rejected claims include independent claims 1, 15, and 27. Claims 3 and 7-13 depend from independent claim 1. Claims 16, 20-23, 25, and 26 are dependent from independent claim

15.

The Examiner states in the reasons for the rejection that “Mollura fails to disclose the mattress including a non-puncture resistant cover having an interior surface.... [Further,] Mollura also fails to teach containers being seal-sealing.”<sup>11</sup> The Examiner is attempting to modify the mattress of the Mollura Patent to include the disclosed structure of the Taylor Patent and to further include the sheeting of the Hall Patent.

Applicant submits that there is no disclosure or suggestion in the Mollura Patent of a motivation to modify the Mollura Patent to include the disclosed structure of the Taylor Patent and the sheeting of the Hall Patent. Further, even if the Mollura Patent provided disclosure or suggestion for the combination (which it does not), as stated above, there is no motivation and further a teaching away from the combination of the disclosed structure of the Taylor Patent and the sheeting of the Hall Patent. For at least these reasons, Applicant submits that the combination of the Mollura Patent, the Taylor Patent, and the Hall Patent is improper.

For at least these reasons, Applicant submits that the invention recited in independent claim 1, the invention recited in independent claim 15, and the invention recited in independent claim 27 are each patentable over the combination of the Mollura Patent, the Taylor Patent, and the Hall Patent. Accordingly, Applicant submits that independent claims 1, 15, and 27 and dependent claims 3, 7-13, 16, 20-23, 25, and 26 are in condition for allowance. Such action is respectfully requested.

Claims 4-6, 9, 10, 14, 21, 22, and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Mollura Patent in view of the Taylor Patent, in further view of the Hall Patent, and in yet further view of the Steensen Patent. Claims 4-6, 9, 10, and 14 depend from independent claim 1 and are allowable at least for the reasons stated above in connection with claim 1. Claims 21, 22, and 24 are dependent from independent claim 15 and are allowable at least for the reasons stated above in connection with claim 15.

Claims 28, 29, 33-36, 38, and 39 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Mollura Patent in view of the Hall Patent, in further view of the Taylor Patent, and in yet further view of U.S. Patent No. 6,453,490 to Cardinale (hereinafter the “Cardinale Patent”). The rejected claims include independent claim 28 from which the remaining claims depend.

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<sup>11</sup> Office Action, numbered paragraph 4.



Applicant submits that there is no disclosure or suggestion in the Mollura Patent to modify the Mollura Patent as suggested by the Examiner. Independent claim 28 is directed to a “patient support including: a frame, a siderail ... and a mattress ... including a non-puncture resistant cover ... and a core ... including a plurality of enclosures housing a respective plurality of containers, each container including a self-sealing lining.”

The Examiner is relying on the modification of the Mollura Patent to include the disclosed structure of the Taylor Patent and the sheeting of the Hall Patent to reject the limitations of independent claim 28 directed to the structure of the mattress. As stated above in connection with claims 1, 15, and 27, there is no disclosure or suggestion in the Mollura Patent of a motivation to modify the Mollura Patent to include the disclosed structure of the Taylor Patent and the sheeting of the Hall Patent. Further, even if the Mollura Patent provided disclosure or suggestion for the combination (which does not), as stated above, there is no motivation and further a teaching away from the combination of the disclosed structure of the Taylor Patent and the sheeting of the Hall Patent. For at least these reasons, Applicant submits that the combination of the Mollura Patent, the Taylor Patent, the Hall Patent, and the Cardinale Patent is improper.

For at least these reasons, Applicant submits that the invention recited in independent claim 28 is patentable over the combination of the Mollura Patent, the Taylor Patent, the Hall Patent, and the Cardinale Patent. Accordingly, Applicant submits that independent claim 28 and dependent claims 29, 33-36, 38, and 39 are in condition for allowance. Such action is respectfully requested.

Claims 30-32 and 34-37 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Mollura Patent in view of the Hall Patent, in further view of the Taylor Patent, and in yet further view of the Cardinale Patent, and in yet still further view of the Steenson Patent. Claims 30-32 and 34-37 depend from claim 28 and are allowable at least for the reasons stated above in connection with claim 28.

#### D. New Claims

With this amendment, the Applicant has added claims 40-78. Claims 40-47 and claims 48-55 depend from independent claims 17 and 19, respectively. Independent claim 56 is directed to a mattress. Claims 57-66 depend from independent claim 56. Independent claim 67 is directed to a mattress. Claims 68-72 depend from independent claim 67. Independent claim 73 is directed to a patient support. Claims 74-78 depend from


independent claim 73. These claims are supported by the specification and figures. Consideration and allowance of these claims is respectfully requested.

E. Final Remarks

Claims 1 and 3-78 are believed to be in condition for allowance. Such allowance is respectfully requested.

If necessary, please consider this a Petition for Extension of Time to effect a timely response. Please charge any additional fees or credits to the account of Bose McKinney & Evans, LLP Deposit Account No. 02-3223. In the event that there are any questions related to these amendments or to the application in general, the undersigned would appreciate the opportunity to address those questions directly in a telephone interview to expedite the prosecution of this application for all concerned.

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